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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/479,708 | 01/07/2000 | ALLEN P MILLS JR. | MILLS-11 | 3424 |

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EXAMINER

WARREN, MATTHEW E

ART UNIT PAPER NUMBER

2815

DATE MAILED: 04/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/479,708

Applicant(s)

MILLS, ALLEN P

Examiner

Matthew E. Warren

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 and 23-31 is/are allowed.
- 6) ☒ Claim(s) 19-22, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the Arguments file on January 21, 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-22, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure 1 (APAF 1) in view of Suzuki et al. (US 5,544,000) and Ishiyama et al. (US 5,627,457).

The APAF 1 discloses (pg. 2, line 22 – pg. 4, line 5) a method of a temperature compensation for ROM device having a temperature compensation circuit comprising a feedback resistor in which the conductivity is responsive to changes in temperature and a voltage coupled to input word lines (28). The electrical conductive properties of the feedback resistor are the same as the electrical conductive properties of data resistors (30) in the circuit. The ROM uses a plurality of data resistors (points 30) to connect the plurality of input lines and output lines (40). The material of the data resistor is polysilicon which could be doped or undoped. Sense amplifiers are coupled to output bit lines (40) wherein the bit lines comprise an operational amplifier having a fixed feedback resistor which is temperature independent. The APAF 1 shows all of the elements of the claims except the method of maintaining the current comprising

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supplying the reference voltage to input lines by supplying a constant current to the reference resistor wherein the reference voltage is responsive to a change in temperature. Suzuki et al. discloses (col. 6, lines 20-35) a sensor comprising a method of maintaining a constant current in a temperature compensation circuit by supplying a reference voltage to input lines and the reference voltage is responsive to a change in temperature. None of the references disclose the method of supplying the reference voltage through a switch. Ishiyama et al. discloses (col. 17, lines 56-col. 18, lines 9 and fig. 5) switches (9) connected to a constant current source (8) to vary the current and regulate the generated voltage. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of maintaining the temperature compensation circuit of the APAF 1 by supplying a reference voltage that is responsive to a change in temperature as taught by Suzuki to supply a constant current and ultimately reduce errors resulting from temperature changes. Furthermore, it would have been obvious to add switches to the circuit as taught by Ishiyama to vary the current and regulate the voltage generated by the current source.

Allowable Subject Matter

Claims 1-18, 23-31 allowed.

The following is an examiner's statement of reasons for allowance: the prior art references, alone or in combination, do not show a temperature compensation circuit to maintain a current through a plurality of data resistors constant comprising a voltage source producing a voltage that is responsive to changes in temperature and a switch

connected to the voltage source to selectively couple the voltage source to input lines. The closest prior art reference (Ishiyama et al.) discloses the use of a switch but differs in that the switch provides a variable voltage by changing the input current of the device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 1-33 have been considered but are not persuasive. The applicant primarily asserts that the cited references do not show all of the elements of the claims because those references do not show 1) supplying a constant current to a reference resistor whose conductivity is responsive to changes in temperature, 2) maintaining a current through a ROM substantially constant as temperature changes. The examiner contends that the cited references show all of the elements of the claims.

With respect to the first argument that a the method of supplying a constant current to the reference resistor has not been cited in the prior art, the examiner believes that Suzuki and Ishiyama et al. cures the deficiency of the APAF. Suzuki discloses a temperature compensation circuit having a temperature sensitive resistor R1 (in addition to fixed resistors R2-R6) in column 6, lines 23-28). The temperature

sensitive resistor is viewed as the reference resistor by the examiner. Ishiyama was cited to show that constant current source is connected to the reference resistor to generate the reference voltage. Therefore the combination of Suzuki and Ishiyama shows a reference voltage responsive to temperature changes and a constant current source connected to the reference resistor to generate the reference voltage, thus curing the deficiencies of the APAF.

With respect to the argument that the cited references do not disclose maintaining a current through a ROM substantially constant, the examiner believes that the cited references show those elements of the claims. With this argument the applicant implies that Suzuki and Ishiyama do not show maintaining a constant current through a ROM device. Suzuki and Ishiyama do not disclose ROM devices, however, the temperature compensation techniques found in both references can be applied to the ROM device shown in the APAF. Since the APAF teaches the ROM device and is only deficient in showing the constant current source and reference resistor, it is not necessary for Suzuki and Ishiyama to specifically teach the ROM device. Therefore, the cited references show all of the elements of the claims and this action is made final.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within


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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (703) 305-0760. The examiner can normally be reached on Mon-Thurs, and alternating Fri, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

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April 4, 2003